

THE PHIL-MONT MOBILE RADIO CLUB

The Phil-Mont Mobile Radio Club was organized in 1949 to create an interest in amateur mobile operations in the Philadelphia-Montgomery County area. The four years which have followed have seen the growth of an active mobile club, dedicated to public service, and numbering some 60 members.

A "net" frequency of 29.493 megacycles has been in operation since the club first became active. To date over 150 crystals have been sold to members, past and present. Net activities include the "Scrambled Eggs Net" (SEN), which meets week days 7:30 to 8:15 AM, and "Ten on Ten", which meets at 10:00 AM each Sunday.

Club meetings are held the first Monday of each month at the Cassidy School, between 65th and 66th on Lansdowne, in West Philadelphia. Meetings start at 8:00 PM. Visitors are cordially invited to attend this social gathering.

Club activities include mobile transmitter hunts, parade marshalling, mobile communications at sports events and boat races, Civil Defense and communication drills. Club picnics and outings take place throughout the summer, and in the fall a dinner-dance is held.

Throughout the Philadelphia and suburban areas, fixed stations equipped with vertical antennas and squelch operated receivers monitor the club "net" frequency. A mobile in need of assistance, or with a message to relay can usually contact a fixed station on the Phil-Mont frequency.

The club operates and maintains a communications trailer equipped with emergency power and complete communication facilities. This portable unit may be transported to any location for use as mobile net control or message center.

Technical Data Sheets are issued periodically to all club members. These data sheets contain information primarily of interest to the mobile ham. Subjects such as noise limiters, elimination of tire static, methods of transmitter control, etc. are discussed.

Each month a news letter called "The TVI Retreat" is mailed to all members. The news letter consists largely of contributions from the members concerning mobile operations and club activities.

Should you be interested in the Phil-Mont Mobile Radio Club and its activities, feel free to attend the monthly meeting at Cassidy School, or contact one of the club officers for further information.

President - C. M. Snyder W3NIP

Vice President - J. H. Gaul W3IM

Secretary - C. R. Spencer Jr. W3QQH

Treasurer - E. Juliani W3DSG

WELCOME TO PHIL-MONT

Phil-Mont Mobile Radio Club, Inc., one of the country's most active radio clubs, had its start with a small group in Glenside, Pa. back in 1949. Many hams were "going mobile" to avoid television interference citation, because surplus equipment made it easy, or just because the sunspots were favorable. "Ten meters" became the hang-out and 29.493 mc. a net frequency established with "surplus" crystals --- still active to this day!

Soon the club outgrew its Glenside quarters and took up Philadelphia CD's invitation to go to West Philadelphia command post. Membership mushroomed to a hundred and a ceiling was clamped on our numbers -- with a waiting list. The ceiling was subsequently abandoned as many clamored for membership. Another move to Germantown Town Hall CD command post boosted activity. We built an equipped a small communications trailer for use in parades, model airplane meets, boat races --- and perhaps even an emergency!

Phil-Mont was ready for the August 1955 floods in the Delaware Valley and the Poconos when many members handled emergency traffic from their mobile rigs which were dispatched to the trouble spots. A twenty minute sound movie called "Every Single Minute" was prepared by the club to narrate this and other activities and is still shown to interested groups.

Net activity has been high throughout the years with regular check-ins, chit-chat, and even election debates for club officers aired on 29.493 mc. Our club was represented in a free-flight "bolloon-mobile" and we often tracked balloons up to 75 miles from the starting place.

We replaced the small communications trailer with a truck that could go under its own power and filled it with multi-band gear that has been used with sports car rallies, model airplane meets and with police Halloween mischief night details. Field day work-outs resulted in Phil-Mont amassing winner's totals in mobile scores in several recent years. Recently, a large office trailer has been added and equipped with multi band AM, side-band, teletype, FM and auxiliary service gear. Even airconditioning and a lounge with galley was included.

Phil-Mont has received much publicity, appearing on national and local TV and radio, as well as in print. Our own monthly newspaper "The Blurb" has been in continuous publication for many years. Phil-Mont has been recognized world-wide on the air by "certificate hunters" as well as by the fine account made by our two club stations, W3RQZ at Germantown Town Hall and W3TKQ at Franklin Institute Science Museum.

Meetings are held on the first Monday of each month at the Franklin Institute in Philadelphia where visitors are always welcome. Daily-on the-air operation include 29.493 mc. AM, 52.520 mc. FM and 3995(+) KC SSB as well as other non-net operation on other bands and frequencies. Gibe us a call.



Welcome to Phil-Mont Mobile Radio Club

This information sheet is intended to acquaint you with the aims of Phil-Mont, the reasons for our member activity requirements, our likes and dislikes, and general information about our group.

Phil-Mont was started with 5 members who felt that mobile radio was of sufficient interest, apart from general radio, to warrant the formation of a club devoted exclusively to mobile radio. In this they were quite correct. Our club meetings center around mobile radio, our activities are based on the value of mobile communications units, our Com Truck was conceived with the idea that a movable command center is a must in emergency communications. Phil-Mont has grown from 5 members to more than 100 in a steady climb. It's reputation as "red hot activity group" has been gained through activities directed toward proving that mobiles are a most important part of any communications problem and an excellent way to carry your hamming with you.

With this in mind, we endeavor to approve new members who have tried to show what we consider an active interest in our club. If, after you have met us, you feel you want to join Phil-Mont and our activities - we will be glad to consider your membership. Those committees you agree to help, your present or proposed mobile activity on 29493 - these things help us to determine your value to Phil-Mont. This explanation of our basic ideals may help you determine whether you will like us. If this seems "choosy", project yourself ahead a year and think whether, as a bonafide member of Phil-Mont, you would not like the same consideration given another new member whose application has been passed to you for approval.

At the bottom of this sheet you will find space for the names of two sponsors and three blocks for activities. Visit us at three meetings or activities, have any member of Phil-Mont certify your presence at each and pick your two sponsors. Then the Secretary will be glad to give you an application blank and help you fill it in. You will be introduced via the "Blurb", considered at the next meeting of the Board, and you'll then be a PHIL-MONTER - Every Single Minute.

Date	Activity	Witness
Sponsor		Sponsor

ORGANIZED 1916



AFFILIATE

SOUTH JERSEY RADIO ASSOCIATION

POST OFFICE BOX 316
HADDONFIELD, N. J.

K2AA

20 May 1969

Mr. Murray Bevitz, K3SPS
Corresponding Secretary
Philmont Mobile Amateur Radio Club
7528 Brockton Road
Philadelphia, Pennsylvania 19151.

Dear OM:

To enhance the attractiveness of our 21st Annual Hamfest and Picnic to be held September 7th 1969 (Rain date Sept. 21st) at Molia Farms, Malaga, New Jersey, we are ADDING TEN METERS TO THE HIDDEN STATION HUNT especially for PHILMONT. We would appreciate having this announced to your membership and we look forward to a large participation. Details on this affair will be furnished later thru regular club channels.

Fraternally yours,

Ed. Braddock
Edward Braddock, W2BAY
Corresponding Secretary
S.J.R.A.

W3BBB

Subject: IEEE International Conference on Communications

Date: Sunday June 13, 1982 thru June 17.

Place: Franklin Plaza Hotel, 17th & Race Sts., Phila., Pa.

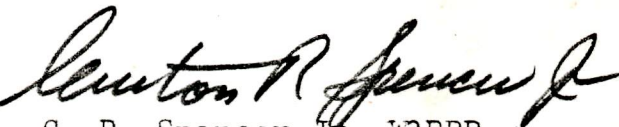
An initial meeting of Phil-Mont coordinators and interested parties was held January 27, 1982 at the QTH of W3BBB. Phil-Mont has been asked to chair the Amateur session which is scheduled for Monday evening, June 14, from 7:00 PM to 11:00 PM. Tentative plans call for four 45 minute talks with a 10 minute coffee break, funded by the conference, midway in the program.

Under consideration are presentations by Phil-Mont Mobile Radio Club, Mt. Airy VHF, South Jersey RC, FCC Eng. in Chg, with a welcome by Jesse Bieberman, W3KT, ARRL Director. Other possibilities mentioned are Warminster RC, West Chester Co. RC., DVRA. W3AWH would MC the program. A formal agenda is due by mid-April for publication.

Various program subjects were discussed. No final decisions were made but it is suggested that any material be of general interest rather than heavy technical. 150-200 attendees are expected from all over the U.S. and other parts of the world. Our portion of the conference is considered to be social but ham-oriented.

A display booth will be provided by the conference, free to us, for an amateur display. W3BBB has agreed to oversee construction with attendants selected from retired persons from all radio clubs. The booth will be set up late Sunday, June 13 and will be open on the floor from 9:00 AM Monday thru mid-afternoon Wed. Evening closing time is approx. 7:00 PM daily.

Attached is a locator sheet of those presently involved.


C. R. Spencer Jr. W3BBB

IEEE International Conference on Communications

Locator File

1-28-82

G.W. Ruhl (Bill)	W3WKO Bell Telephone Coordinator	W-466-4492 H-647-7733
C. R. Spencer Jr (Jim)	W3BBB Co-chairman(PMRC)	884-8469
John Tinaglia W3AWH	Co-chairman(PMRC)	642-9064
Howard Gilpin W3SRU	PMRC	699-7980
Chas Andrews W3IRS (Frenchie)	PMRC	356-9299
Al Hamilton W3GIF	PMRC	242-8832
Dick Klein W3WXC	PMRC	664-2907
Harry Stein W3CL	Mt. Airy	TU7-5052
Dave Zimmerman W3ZD	Mt. Airy	675-4539

IEEE
1982
International Communications Conference

AMATEUR RADIO SESSION

Monday, June 14, 1982
Franklin Plaza - Dominion A, 7 - 10 p.m.
Organizer: Jake Kovalchek, AK2I
Master of Ceremonies: John Tanaglia, W3AWH

PROGRAM:

"Introduction"
Hugh Turnbull, W3ABC
Director, Atlantic Division, ARRL

"Amateur Radio - Present and Future"
Ennis Coleman
Engineer in Charge, Philadelphia District Office
Federal Communications Commission

"Demodulation of Digital Signals"
George Woodward, WLRN
Staff Member, ARRL

BREAK

"Solid State Techniques for 1296 MHZ"
William Olson, W3HQT, David Mascara, WA3JUF
Mt. Airy VHF Radio Club

"Mobile Radio Emergency Operations Centers"
Jim Spencer, W3BBB
Phil-Mont Mobile Radio Club

W3QV
Monitored
Net
Frequency:
29493 KHZ
W3ROZ
W3TKQ
The Franklin Institute
20th and The Parkway
Philadelphia, Pa.
19103
PHIL-MONT MOBILE RADIO CLUB, INC.

Fredwood S Shaw
3420 Tyson Road
Newtown Square, Pa.
19073

Address reply to:

December 20 1981

Dear Fred,

On behalf of the Philmont Radio Club I wish to acknowledge receipt of your letter and check to Philmont, the letter was read at the last Directors Meeting and will also be noted at the next General Meeting at which time we hope you will attend, it is members such as yourself that enable Philmont to remain as fine a Club as any noted on the air.

Your continued interest and endeavor on keeping Philmont in a position of leadership is noted with pride and we hope it always remains as such.

May I also take this opportunity to convey our best wishes to yourself and members of the family for a very successful and healthy 1982 and for many years to come.

Sincerely,

Leon S Greenwood, Secrty,
Philmont Mobile Radio Club

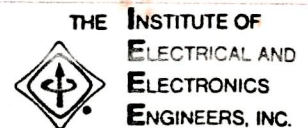
cc Jake Kovalchek AK2I
Woody Haldeman W3PST
John Tinaglia W3AWH





International Conference on Communications

"The Digital Revolution"



June 13-17, 1982

Please Address reply to:
G.W. Ruhl
Bell of Pa.
One Parkway, 5th Fl.
Phila., Pa. 19102
215-466-4492

General Chairman
I. Sheldon Haas
General Electric Company
215-962-1153

Vice Chairman
G. William Ruhl
Bell of Pennsylvania
215-466-4492

International
John S. Ryan
Bell Telephone Laboratories
201-949-5813

Technical Programs
Dr. Kerns H. Powers
RCA David Sarnoff Labs
609-734-2746

Arrangements
Thomas L. Fagan
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202-637-4198

Secretary
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Naval Air Development Center
215-441-3119

Finance
Carroll Williams
Bell of Pennsylvania
215-466-2516

Treasurer
Thomas W. Powell
Burroughs Corporation
215-648-2524

Publications
Dr. Bruce Eisenstein
Drexel University
215-895-2359

Exhibits
William J. Coyle
Western Electric Company
215-972-1306

Registration
George McWilliams
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215-648-7249

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Fulvio Oliveto
RCA Missile & Surface Radar Div.
609-778-2181

Publicity
Merrill W. Buckley, Jr.
RCA Missile & Surface Radar Div.
609-778-2554

Advisors
William W. Middleton
Bell of Pennsylvania
215-466-3904

Stanley Zebrowitz
Ford Aerospace & Comm. Operation
215-659-7700 (X2463)

Philmont Amateur Radio Club
Franklin Institute
20th & Parkway
Philadelphia, Pa. 19103

Gentlemen:

Each year the Institute of Electrical and Electronic Engineers (IEEE) holds an International Conference on Communications. This conference addresses a wide spectrum of topics associated with the latest advances in communications technology. The 1982 conference will be held in Philadelphia during the week of June 13 - 17. The theme of the conference will be the "Digital Revolution" and we expect an attendance of at least 1500 engineers and scientists from the United States and abroad. Over 500 papers will be presented pertaining to many facets of communications technology.

Traditionally each conference holds an amateur radio session. We would like your club to hold the session in 1982. I have attached a copy of the agenda from the 1981 session which can give you an idea of the types of presentations that are usually made.

Please let me know at your earliest convenience whether it will be possible for you to assume this responsibility. We would be glad to discuss the reimbursement of expenses and any other details that may be involved in this session.

Sincerely,

G.W. Ruhl
Vice Chairman - ICC '82

cc: Mr. Stevenson
Mr. Powers
Mr. Haas

Conference Site: Franklin Plaza Hotel - Philadelphia
17th & Race

Sponsors: Communications Society Conference Board
Philadelphia Section - IEEE



NATIONAL BUREAU OF STANDARDS

1:00 p.m. to 4:30 p.m. (Second tour)

BANQUET, 6:00 p.m. Grand and Junior Ballrooms



The social highlight of ICC '81 will be the Banquet featuring awards to outstanding individuals for their contributions to our profession and an address by Robert K. Timothy. A cocktail hour begins at 6:00 p.m. near the exhibit area, and dinner will be served at 7:00 p.m.

Mr. Timothy, a native of Colorado, is president of Mountain Bell Telephone and Telegraph Company. He served in many capacities with the company in Colorado and Wyoming prior to being elected president in 1970. He is active in Denver civic affairs, and serves on the board of directors of banks, business and industry associations locally and nationally, and as a director and vice-president of the National Safety Council from 1970 to 1980.

Bob Timothy will present a down-to-earth viewpoint on "Communications: The Expanding Resource" based on his wide knowledge and experience in many aspects of communications. This highlight of the conference is sure to prove fascinating for all who attend.

WEDNESDAY, June 17, 1981

HOSPITALITY AND SOCIAL ACTIVITIES CENTER, Colorado Room

8:00 a.m. Get acquainted "Coffee."

A DAY IN THE MOUNTAINS AT CENTRAL CITY

9:00 a.m. to 4:00 p.m.

Can't leave without a trip to the mountains!! In 1859 gold was discovered in the Rocky Mountains and the nation's second gold rush was underway. Central City was one of the main mining communities and came to be known as "the richest square mile on earth." Come see an old mining town, view its history in a special multi-media presentation, see the "Face on the Barroom Floor" in the Teller House, shop the antique stores. Tours through a gold mine and rides on a narrow gauge railroad are also available.

Note: (Temperature is generally in the 60's with the chance of an afternoon shower. Suggested attire: casual; good walking shoes; sweater or light jacket.)

NATIONAL BUREAU OF STANDARDS

9:00 a.m. to 12:30 p.m. (Third tour)

See Tuesday, June 16 for tour description.

COORS BREWERY PARTY TOUR

7:00 p.m. to 11:00 p.m.

Your evening at Coors will begin with that good taste of high country barley and pure Rocky Mountain spring water that

makes up the distinctive taste of Coors beer. For those of you who can break away from the Party Lounge, guided tours will be conducted throughout the brewery by experts in the art and science of beer making. Then we will be treated to a film and door prize drawings in the theatre. After which we will be served a late evening snack, dancing, bar games, etc. all compliments of the Adolph Coors Company, Golden, Colorado.

AMATEUR RADIO SESSION

Wednesday, June 17, 1981

Junior Ballroom

7-10 p.m.

Senior Organizer: George R. Stoll, WAOKBT

Join us Wednesday evening for the ICC '81 Amateur Radio Session. A combined social gathering and light technical session has been planned for your entertainment. Intermixed with the program will be a prize drawing, coffee break and equipment display. Everyone from seasoned amateur to prospective newcomer is welcome at this free session.

Program:

"Introduction"
Carl Smith, WOBWJ
First Vice President, ARRL

"A Microprocessor Based Repeater Control System"
Philip Becker, WBOEIV
Martin Marietta Corporation

"The FCC and Amateur Radio: The Next Ten Years"
Dennis Carlton
Engineer in Charge, Denver District Office
Federal Communications Commission

Coffee Break

"Amateur Packet Radio Communications"
Warren Struven, W6CB
Stanford Linear Accelerator Center

"Telephone Interconnect and the Radio Amateur"
Josef Engressia, WBORPA
Consultant

"A Fast Scan UHF Television Repeater"
Dr. James R. Andrews, WAONHD
Woods Electronics

Amateur Radio Booth

Stop by the Amateur Radio Booth in the exhibit area! An interesting collection of vintage amateur radio equipment, including a spark-gap transmitter, antique receivers and test equipment will be on display.

ICC 81 report ICC finds technology tame compared to political issues

DEL MYERS
Editor

THE INTERNATIONAL Communications Conference (ICC 81) drew approximately 1600 attendees from 30 countries to Denver, Col., June 14-18, 1981. Seventeenth in a series of major conferences, this annual event was sponsored by the Communications Society Conference Board and the Denver Section of the Institute of Electrical and Electronic Engineers, Inc. (IEEE).

The conference theme, "Communications—the Expanding Resource," has a double meaning, according to the conference's General Chairman Robert C. Skelton: "As we continue to exhaust natural resources, our field of telecommunications continues to expand electronic resources. This also is the purpose of the conference. You are the most valuable resource in telecommunications...expanding your knowledge will significantly contribute to the growth of the telecommunications field."

Such technological directness seldom prevails, however, because politics and economics are powerful factors in the development and deployment of technology—factors given special emphasis by the appearance of Rep. Timothy Wirth (D., Col.) as the conference's keynote speaker. Wirth, chairman of the House of Representative's subcommittee on Telecommunications, Consumer Protection and Finance, identified the following areas which he said "will be critical to telecommunications policy in the next two decades."

One area is lack of knowledge that affects both industry representatives and consumers. "We simply don't know how this electronic revolution is changing and will change society," Wirth said. He explained that the industry has an "understandable uncertainty as to where the markets and competition will be in the future" and the general public "which includes most of Congress" does not see the relevance of "most communications issues."

Another extremely important issue, according to Wirth, "is the ownership and control of the production and dissemination of information. Control of information in a democratic society is

a question far more important than the question of monopoly over spark plugs. In an information age, it is crucial to the survival of our democracy."

Wirth identified other issues such as market dominance, scarcity of frequency spectrum, sharing technological benefits globally, positioning telecommunications first in U.S. world trade and focusing on the social impact of a new age even though "we don't know whether it will be positive or negative."

Of all these issues, Wirth regards the control of information as tremendously important. During a news conference prior to the luncheon, he told TELEPHONY that American Telephone & Telegraph Co. (AT&T), New York, N.Y., should not provide information "including electronic yellow pages wherever they control the local loop." A preferable arrangement, according to Wirth, is one like that undertaken by AT&T and the Knight-Ridder, Miami, Fla., newspapers in Florida (TELEPHONY, July 28, 1980, p. 11). There, he explained, the information provider and the information distributor are distinctly separate entities.

Technology issues, by contrast, seem tame although certainly not simple as the technical program of ICC 81 il-

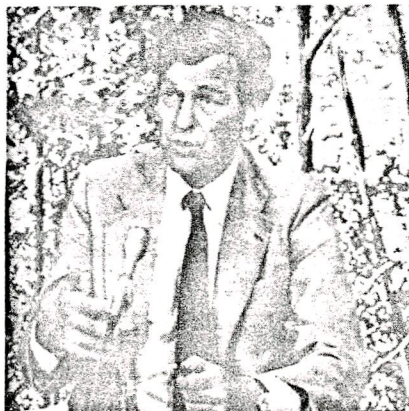
lustrated. It was a smorgasbord of simultaneous sessions catering to the wide range of specialists in the field of communications engineering. The appearance of new technical sessions at the conference is a sure sign that user needs, market opportunities and technological capability are beginning to converge, such as, the session on "New Terminals for Communication" organized by Fritz E. Froehlich of Bell Telephone Laboratories, Inc., Murray Hill, N.J.

This session addressed voice control of business terminals (David B. Roe, Bell Labs), teleconferencing (David W. Kennett, Ohio Bell Telephone Co.), extension service in digital systems (C.W. Reedyk, Bell Northern Research Ltd., Ottawa, Ont., Canada), integrated voice/data terminals (David Fellows and Bill Wang, GTE Laboratories Inc., Waltham, Mass.) and an all-optical telephone set (Nathan W. Feldman, CENCOMS, U.S. Army Communications R&D Command).

"Futurists," said Roe, "have long dreamt of a machine that will understand natural, unconstrained human speech. Unfortunately, speech recognition research is still far from that goal. Today's most advanced systems recognize isolated words from any talker or connected words from one talker who has trained the device, using a microphone close to the mouth."

Roe described an experimental terminal developed and built at Bell Labs and identified the major problems associated with the experiment, such as, the trade-off between cost and usefulness. Fast recognition speed is desirable, he explained, but is more costly. "A commercially successful system," he said, "must be based on a sound understanding of which characteristics

REP. TIM WIRTH (l), chairman of the House subcommittee on telecommunications, was the keynote luncheon speaker at ICC 81. Wirth made the point that carriers should not be information providers wherever they also own the local loop. Fritz Froehlich (r), Bell Labs, moderates a technical session addressing the development of advanced business terminals.



may—and may not—be compromised to reduce costs.”

The essential qualities for a voice-controlled business terminal, according to Roe, include recognizing speech within normal human reaction time, rarely or never making mistakes, recognizing connected words and, in some instances, allowing hands-free operation. Roe believes that such terminals ultimately will become available at reasonable prices but set no date for their appearance.

The Ohio Bell teleconferencing system that Kennett described is a multi-city videoconferencing system whose first elements were installed in 1973. It is used exclusively for Ohio Bell purposes in four cities—Columbus, Cleveland, Dayton and Toledo—and approximates a face-to-face meeting between small groups of people using monochrome video and audio.

According to Kennett, the system features an “open” audio system that makes interruption easy—a system appropriate for small interactive groups, but not for large groups where the audio is primarily one way. Accommodating all four cities and, possibly, more cities, in a single conference raised several problems:

“With open microphones in four cities, background noise and feedback become bigger concerns,” Kennett said. “Feeding video from each city to each other city would make video switching simple but use a great number of circuits. We arbitrarily decided that a good compromise would be to voice-switch video.

“The city speaking is shown in all other cities. That city continues to see the previous speaker. This means that two people actively talking back and forth will continue to see each other while all other locations will see video switched between them as they speak. Should another location interrupt, he would continue to see the person he interrupted while all others now would see him.”

A distributive switching arrangement, Kennett explained, allows extending the original two-city configuration in either or both directions, thus adding as many locations as desired but minimizing the number of circuits required.

Although the Ohio Bell teleconferencing system has accommodated more than 10,000 participants, 1000 conferences and now averages more than one conference per day, Kennett regards current attempts at videoconferencing as “primitive. Future systems will be more user oriented and flexible,” he said, “and compatibility among various

systems, mandatory if we are to see future widespread uses of videoconferencing.”

Feldman’s discussion of an all-optical telephone set easily could be dismissed as “blue-sky” because so much work remains to be done in the electronic/metallic technologies. Nevertheless, Feldman claimed that the time is ripe for such development and that it now is possible to write a specification for such a set and to conceive how it might be built.

“Technologies, many of them quite primitive, do exist to serve as a starting point for our development,” Feldman said.

Justification for undertaking such a development, Feldman explained, include the well-known characteristics of fiber optics: security, immunity to most known sources of interference, bandwidth, economy and “last, but not least,” he said, “if optical communications are to be adopted at all, we must explore every aspect. This includes the telephone.”

Of more immediate concern, however, is the development of extension digital telephone service in the emerging digital network, the subject addressed by a group of Bell Northern Research (BNR) authors and presented at the conference by Reedyk.

“Provision of extension services,” Reedyk said, “is not a straight-forward proposition (as it is in analog systems). Most solutions call for an individual transmit time slot for each telephone and common equipment to perform the decompanding, summation, companding and re-distribution. The unique scheme developed at BNR solves the

problem with an elegant voice-switching technique which selects the dominant speaker in a conversation and allocates the transmit time slot accordingly. Hardware implementation is very simple and suitable for integration with a codec on a single integrated circuit.”

This technique, according to Reedyk, is particularly useful for single channel applications in which terminals access the digital bus in parallel.

It also can be applied advantageously to multi-channel operation. Simplicity of the technique makes the circuit suitable for integration into a basic digital telephone, thus eliminating the need for a separate interface unit at subscriber premises.

Telecommunications terminals—nor a technical session concerning them—do not stand alone. Behind the terminals is a network that is becoming more sophisticated, tightly-coupled and capable of delivering enhanced services as well as supporting the terminals.

And beyond the technical session on terminals were 74 sessions on applications such as home communications, public and private electronic mail systems, commercial satellite systems, wideband services, high speed digital coaxial systems, fiber optic systems, digital switching systems, transmultiplexers, signal processing, software structure—enough, in fact, to fill four large volumes called the ICC 81 Conference Record.

For those who need complete information on the conference, the record may be ordered as follows: Catalog Number 81CH1648-5, IEEE Service Center, 445 Hoes Lane, Piscataway, N.J. □

DISCUSSING PROGRESS toward the integrated services digital network (ISDN) are (l to r) Russ DeWitt, Continental Telephone Service Corp., John McDonald, MBX, Richard Tallman, Arabian American Oil Co., and C. Skrzypczak, AT&T.

